

CLAIMS

What is claimed is:

1. A method of seamlessly transferring a communication session on an IP network, the method comprising:

5 initiating a session between a correspondent device and a first device having a first device IP address;

generating a temporary IP address for the first device;

10 registering a desire to transfer the session from the first device to a second device;

transferring the first device IP address to a Session Agent so that the Session Agent can intercept sessions addressed to the first device IP address; and

transferring the session from the first device to the second device via the Session Agent so that data transferred from the correspondent device to the first device via the first device address will be received by the second device.

15 2. A method according to claim 1, wherein the method further comprises:

negotiating a transfer of the sessions between the first device and the second device;

20 registering the specific session to be transferred with the Session Agent so that the Session Agent can intercept and transfer the session to be transferred; and

intercepting the specific session to be transferred via the Session Agent so that the session can be transferred from the first device to the second device.

25 3. A method according to claim 2, wherein the negotiating to transfer the session comprises:

creating a method for securely transferring the communication session from the

first device to the second device.

4. A method according to claim 3, where the created method for securely transferring the communication session comprises:

generating a random number to serve as a session key for the secure transfer of the session between the first device and the second device.

5. A method according to claim 4, where the method further comprises:

encrypting the session key;

transferring the encrypted session key from the first device to the second device and from the first device to the Session Agent; and

using the session key to securely transfer the communication session from the Session Agent to the second device.

6. A method according to claim 2, wherein the intercepting of the specific session to be transferred comprises:

scanning a packet header for information which is associated with the registered session to be transferred so that the Session Agent can determine whether the packet is to be transferred to the second device.

7. A method according to claim 6, wherein scanning a packet header comprises:

scanning a packet header for at least one of a source port, source IP address, protocol, destination port and destination IP address to identify the registered session to be transferred so that the Session Agent can determine whether the packet is to be transferred to the second device.

8. A method according to claim 1, wherein the method further comprises:

generating a wake-up message via the Session Agent once the communication session is no longer to be transferred causing the first device to resume receiving communication sessions addressed to its IP address.

9. A method according to claim 1, wherein the method further comprises:

initiating a second session between a second correspondent device and the first device;

determining which session is to be transferred from the first device to the second device;

transferring the session that is to be transferred from the first device to the second device via the Session Agent so that the session desired to be transferred from the first device to the second device will be transferred to the second device; and

transferring the session that is not to be transferred to the first device via the Session Agent and the temporary IP address so that the first device can continue to receive desired sessions.

10. A method for transferring a communication session in an IP network from a first node to a second node via use of an IP address without disrupting the communication session, the method comprising:

initiating communication sessions between a first node and a first Correspondent Node and the first node and a second Correspondent Node;

generating a temporary IP address with which the first node will be associated;

negotiating a transfer of one of the communication sessions from the first node to a second node such that the second node will generally assume communicating with the

Correspondent Node associated with that communication session;

registering the communication session to be transferred with a Session Agent
so that the Session Agent can assume the IP address of the first node, intercept
communications addressed to the first node, determine what communication sessions the
communications are from, and forward the communications to the appropriate node;

transferring the IP address of the first node to the Session Agent;

intercepting the communications addressed to the first node via the Session
Agent;

determining what communication session the communications belong to; and

forwarding the communications that belong to the communication session to be
transferred to the second node, and forwarding the remaining communications to the first node
via the temporary address.

11. A method according to claim 10, wherein determining what communication session the
communications belong to comprises:

scanning a packet header for at least one of a source port, source IP address,
protocol, destination port and destination IP address to identify the communication session.

12. A method according to claim 10, wherein the negotiating to transfer one of the sessions
comprises:

generating a random number to serve as a session key for the secure transfer of
the session to be transferred;

encrypting the session key;

transferring the session key from the first node to the second node and the first
node to the Session Agent; and

using the session key to securely transfer the communication session to be transferred from the Session Agent to the second node.

13. A method according to claim 10, wherein the method further comprises:

5 generating a wake-up message once the transfer from the first node to the second node is no longer desired causing the first node to resume receiving communication sessions addressed to its IP address.

10 14. A method of using a Session Agent to maintain multiple communication sessions through a single session and transfer a communication session between a Transferring Node and a Correspondent Node from the Transferring Node to a Target Node without disrupting the communication session, the method comprising:

15 initiating a first communication session between the Transferring Node and a first Correspondent Node, and a second communication session between the Transferring Node and a second Correspondent Node;

 negotiating a session transfer of one of the communication session between the Transferring Node and the Target Node;

 obtaining a temporary IP address for the Transferring Node;

20 registering the specific session to be transferred to the Target Node with the Session Agent;

 intercepting the session communications intended for the Transferring Node via the Session Agent which has assumed the IP address of the Transferring Node;

 examining the session communications intended for the Transferring Node for information identifying the communication session registered to be transferred; and

25 tunneling the session communications registered to be transferred to the Target

Node to the Target Node via the Session Agent.

15. A method according to claim 14, wherein examination of the session communications comprise:

scanning a packet header of the session communication for at least one of a source port, source IP address, protocol, destination port and destination IP address to identify the communication session.

16. A method according to claim 14, wherein the method further comprises:

generating a wake-up message once the transfer from the Transferring Node to the Target Node is no longer desired causing the Transferring Node to resume receiving communication sessions addressed to its IP address.

17. A system for seamlessly transferring a communication session between different devices on an IP network occurring between a correspondent node and one of the devices, the system comprising:

a first device having a first IP address that is used to direct packets intended for receipt by the first device from the correspondent node over the network to the first device;

a second device having a second IP address that is used to directed packets intended for receipt by the second device from the correspondent node over the network to the second device; and

a switch associated with the devices operable to enable the second device to receive at least certain ones of the packets intended for the first device from the correspondent node for seamless session transfer between the devices.

18. The system of claim 17, further comprising:

a Session Agent for intercepting the sessions of communication directed to the first device at the first IP address and transferring these sessions to the second device.

19. A system for seamlessly transferring a communication session on an IP network, the system comprising:

a first device having a first device IP address which is capable of participating in sessions of communication with correspondent devices;

a second device which is capable of participating in the sessions of communication with the correspondent devices;

a Session Agent for intercepting sessions of communication directed to the first device at the first device IP address, and transferring selected communications to the second device; and

an IP network capable of conducting sessions of communications and transferring data directed to the first device in a session of communication from the first device to the Session Agent by transferring the first device IP address from the first device to the Session Agent thereby allowing for the transfer of sessions from the first device to the second device without transferring all of the sessions of communication away from the first device.

20. A system for seamlessly transferring a communication session on an IP network, the system comprising:

at least one Correspondent Node for transmitting and receiving packets of data within a session of communication;

a Transferring Node having a Transferring Node IP address and a temporary IP address and which is capable of participating in sessions of communication with a plurality of

Correspondent Nodes;

a Target Node capable of participating in sessions of communication with a plurality of Correspondent Nodes;

a Session Agent for intercepting the sessions of communication directed to the Transferring Node IP address and transferring desired sessions to the Target Node; and

an IP network capable of transferring the desired sessions of communication between the Correspondent Node and the Transferring Node from the Transferring Node to the Target Node by transferring the Transferring Node IP address from the Transferring Node to the Session Agent thereby allowing the Transferring Node to continue to participate in sessions of communication via its temporary IP address.